

ABSTRACT OF THE INVENTION

Embodiments of the present invention propose a bulk heat dissipation substrate that is part of the substrate on which the devices of an integrated circuit are formed. The bulk layer is formed directly under the device layer of a semiconductor substrate and has a thermal conductivity greater than that of the semiconductor substrate. It is a simple passive technique for the removal of heat during device operation. It is also very effective at the removal of heat from hot spots, or areas of excessive heat, because the heat dissipation material is in direct contact with the substrate on which the devices are formed. Such a material is also valuable for the dissipation of heat during the processing of the wafer substrate because it can be coupled to the semiconductor wafer before processing.